



# DECUS

## PROGRAM LIBRARY

DECUS NO.

8-170

TITLE

FORTRAN SOURCE CONVERSION PROGRAM

AUTHOR

Charles Conley

Submitted by: Richard Palmer  
Digital Equipment Corporation  
Maynard, Massachusetts

COMPANY

DATE

November 26, 1968

SOURCE LANGUAGE

DECUS

PROGRAM LIBRARY



Library of Congress

Department of Education

Office of Educational Research and Statistics

Washington, D.C.

20540

1975

1975

1975

1975

1975

1975

1975

1975

1975

1975

1975

## FORTRAN SOURCE CONVERSION PROGRAM

DECUS Program Library Write-up

DECUS No. 8-170

The PDP-8 FORTRAN Source Conversion Program is loaded with the Binary Loader. Starting addresses for the program are:

200<sub>8</sub> with low speed reader and punch I/O.

202<sub>8</sub> with high speed reader and low speed punch.

203<sub>8</sub> with high speed reader and high speed punch.

The previous FORTRAN Compiler (DEC-08-AFC1) did not require a space or tabulation when beginning a line which was not numbered or did not contain a "C" signifying a comment line. New FORTRAN (DEC-08-AFC1-PB) recognizes only lines beginning with either a space, a statement number, or a space/tab. This program will allow the user to convert FORTRAN source programs written for the old compiler to the new format which is required to run the programs.



```

/PROGRAM TO CONVERT PDP-8 FORTRAN PROGRAMS FROM OLD
/PDP-8 FORMAT TO NEW PDP-8 FORMAT
/

```

```

AX1=10
BUFF=600
*20
PUNCH, LSP
READER, LSR
LOC, 0
CNT, 0
CHAR, 0
TIME, 0
TIMEX, 0
/

```

```

/THE FOLLOWING TABLES GUIDE THE CONVERSION
/

```

L1,	0;	COPY;	L1
	200;	COPY;	L1
	240;	COPY;	L2
	215;	0;	L3
	212;	CRLF;	L1
	214;	COPY;	L1
	";;	SPACE;	L2
	"0;	COPY;	L2
	"1;	COPY;	L2
	"2;	COPY;	L2
	"3;	COPY;	L2
	"4;	COPY;	L2
	"5;	COPY;	L2
	"6;	COPY;	L2
	"7;	COPY;	L2
	"8;	COPY;	L2
	"9;	COPY;	L2
	"C;	0;	L4
	-1;	SPACE;	L2+4000
L2,	215;	0;	L3
	-1;	COPY;	L2
L3,	212;	CRLF;	L1
	-1;	CRLF;	L1+4000
L4,	";;	COMMT;	L2+4000
	-1;	NCOMM;	L2+4000

```

PAGE
/

```

```

/
/CONVERSION PROGRAM BEGINS HERE
START,  NOP
        NOP
        TLS
        PLS
        RFC
        JSR
        RAR
        SNL
        JMP LOWL
        RAR
        CLA
        TAD (HSP
        JCA PUNCH
        SKP
LOWL,   RAR
        SNL CLA
        JMP LOWR
        TAD (HSP
        JCA READER
LOWR,   TAD (L1
        JCA LOC
        JCA CNT
        TAD (BUFF-1
        JCA AX1
INT,    JMS I READER
        JCA CHAR
        TAD I LOC
        SPA
        JMP EX
        CIA
        TAD CHAR
        SNA CLA
        JMP EX
        ISZ LOC
        ISZ LOC
        ISZ LOC
        JMP INT+2

/
EX,     CLA
        ISZ LOC
        TAD I LOC
        SNA
        JMP ,+3
        JCA TEM
        JMS I TEM
        ISZ LOC
        TAD I LOC
        SPA CLA
        JMP ,+3
        JMS I READER
        JCA CHAR
        TAD I LOC
        AND (3777
        JCA LOC
        JMP INT+2
        JMP INT+2
TEM,    A

```

/ HI-SPEED PUNCH?  
/ YES  
/ HI-SPEED READER?  
/ YES  
/ END OF LIST?  
/ YES  
/ HAVE WE FOUND A MATCH?  
/ YES  
/ IS THERE A SUBROUTINE CALL?  
/ NO  
/ YES, CALL IT  
/ SHALL WE GET ANOTHER CHAR?  
/ YES  
/ AND CONTINUE SEARCH...

```

/
/SUBROUTINES FOR CONVERSION PROGRAM
COPY,      0                      /PUT CURRENT CHAR INTO
                                /STATEMENT BUFFER
                                TAD CHAR
                                JCA I AX1
                                ISZ CNT
                                JMP I COPY

/
SPACE,      0                      /PUT A BLANK SPACE INTO
                                /STATEMENT BUFFER
                                TAD (240
                                JCA I AX1
                                ISZ CNT
                                JMP I SPACE

/
COMMT,      0                      /FOUND A COMMENT, PUT A 'C'
                                /INTO THE BUFFER
                                TAD ("C
                                JCA I AX1
                                ISZ CNT
                                JMP I COMMT

/
NCOMM,      0                      /NON-COMMENT, PUT A SPACE INTO
                                /BUFFER FIRST, THEN A 'C'
                                JMS SPACE
                                TAD ("C
                                JCA I AX1
                                ISZ CNT
                                JMP I NCOMM

/
CRLF,       0                      /PUNCH CONTENTS OF BUFFER
                                /THEN PUNCH A CR-LF
                                TAD [BUFF-1
                                JCA AX1
                                TAD CNT
                                CMA
                                JCA CNT
                                CRLF1, ISZ CNT
                                JMP CRLF2
                                TAD (215
                                JMS I PUNCH
                                TAD (212
                                JMS I PUNCH
                                TAD [BUFF-1
                                JCA AX1
                                JMP I CRLF
                                CRLF2, TAD I AX1
                                JMS I PUNCH
                                JMP CRLF1

/

```



```

/
/PAPER TAPE IO ROUTINES ARE HERE
LSR,      0                      /LOW SPEED PAPER TAPE READER
        RSF
        JMP WAITL
        DCA I TIMER
        TAD (-6
        DCA TIMEX
        RRB
        JMP I LSR
WAITL,    ISZ I TIMER
        JMP LSR+1
        ISZ TIMEX
        JMP LSR+1
        JMP ENDP                      /END OF TAPE...

/
LSP,      0                      /LOW-SPEED PUNCH ROUTINE
        ISF
        JMP , -1
        TIS
        CLA
        JMP I LSP

/
HSR,      0                      /HI-SPEED READER ROUTINE
        RSF
        JMP WAIT
        DCA I TIMER
        RRB RFB
        JMP I HSR
WAIT,     DCA I (LSR
        ISZ I TIMER
        JMP HSR+1
ENDP,     TAD [BUFF-1
        DCA AX1
        TAD CNT
        TAD (-3
        SPA
        JMP ENDP1
        CMA
        DCA CNT
        ISZ CNT
        JMP , +3
ENDP1,    HLT
        JMP START+2
        TAD I AX1
        JMS I PUNCH
        JMP , -6
TIMER,    TIME

/
HSP,      0                      /HI-SPEED PUNCH ROUTINE
        PSF
        JMP , -1
        PLS
        CLA
        JMP I HSP

```

PAGE  
5

